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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,874	08/20/2003	Trent Shidaker	038267-0305623	5201

7590 09/15/2005

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EXAMINER

SERGEANT, RABON A

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/643,874	Applicant(s) SHIDAKER ET AL.	
	Examiner Rabon Sergeant	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-46 and 48-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-46 and 48-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 37-46 and 48-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Firstly, with respect to claim 37, it is unclear if the acidified isocyanate or the prepolymer is treated with an acid. In other words, it is unclear if the claim is to provide for treating a previously acidified isocyanate with further acid.

Secondly, with respect to claim 39, it is unclear if the polyisocyanate refers to the already acidified isocyanate of claim 37. In other words, it is unclear if the prepolymer is being prepared from acid, polyol, and a previously acidified polyisocyanate.

Lastly, applicants have amended claim 37 to require the use of a prepolymer, as opposed to the previously claimed isocyanate component, as the foam crumb binder; however, dependent claims, such as claims 50 and 53, refer simply to the acidified polyisocyanate. Therefore, it is unclear which component these dependent claims now refer to, the prepolymer or the acidified polyisocyanate (isocyanate). For example, claim 53 no longer makes sense if only the acidified polyisocyanate component is being cured.

2. Claims 37-46 and 48-57 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Applicants have failed to provide support for processes wherein previously acidified isocyanate is further treated with an acid; however, applicants' claims now provide for such a permutation.

3. Claims 37-46 and 48-58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Isocyanates produced from the phosgenation of amines inherently contain hydrogen chloride; therefore, it is unclear how applicants' claimed isocyanate differs from isocyanates produced from the well known methods of producing of isocyanates that inherently contain an acidifying agent as a result of their production.

Despite applicants' response, it is not seen how applicants' amendment has addressed the examiner's concerns. Applicants' have not established that the claimed isocyanates having the claimed acid quantities differ from the isocyanates produced from the aforementioned well known methods. To support his position, the examiner refers applicants to column 2, lines 41-45 of Cenker et al. ('288). Cenker et al. disclose that commercial isocyanates may contain acid levels that meet those claimed.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 37-46 and 48-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blair et al. ('703) in view of Lee et al. ('793) or Laqua et al. ('317) or Cenker et al. ('288) or EP 856551 or Oertel (pages 8, 96, and 97).

Blair et al. disclose the production of rebonded foam, wherein foam particles are bonded using an isocyanate based binder, wherein the binder is a prepolymer derived from an isocyanate and an active hydrogen compound. See abstract; columns 1 and 2; and column 10, lines 4-15 and 66+.

6. Though Blair et al. fail to disclose the use of an acid to acidify the isocyanate, the position is taken that the use of acid compounds to stabilize and inhibit the reactivity of isocyanates was known at the time of invention. The secondary references are replete with teachings demonstrating the use of acid compounds for such purposes. Blair et al. themselves disclose at column 8, line 51 that weak acids may be used as inhibitors within the production of the foam to be used as crumb, and further disclose at column 10, lines 66+ that these additives may be incorporated into the binder. Therefore, the position is taken that it would have been obvious to acidify the isocyanate binder component by incorporating an acid compound in an

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effective amount within the composition, so as to tailor the reactivity of the isocyanates and the potlife or workability of the binder compositions. It has been held that the use of a known compound for its known function is *prima facie* obvious. *In re Linder*, 173 USPQ 356. *In re Dial et al.*, 140 USPQ 244.

7. The examiner has considered applicants' arguments; however, the arguments are insufficient to remove the obviousness rejection. Firstly, applicants fail to appreciate the combined teachings of the primary and secondary references. The primary reference clearly teaches that acids may be used as inhibitors within the foam and binder components of the rebounded foam; however, applicants fail to address this teaching within their arguments. Given this teaching and the further teachings within the secondary references pertaining to the effect of acids on isocyanate chemistry, the position is taken that the use of an acid as an inhibitor within the instant composition would have been obvious. Furthermore, applicants' argued unexpected results within Tables 1 and 2 have been considered; however, the examples are not commensurate in scope with the claims. The examples are drawn to binders derived from MDI type isocyanates and Voranol 3512 and Sundex 840 active hydrogen compounds. Firstly, applicants' claims are not limited in accordance with these showings, and applicants have provided no logical rationale why the properties of these specific binders would be expected to carry over to other binder compositions. Secondly, applicants have not adequately identified the active hydrogen components; therefore, it cannot be definitively determined how these components relate to those claimed.

8. Clarification is required with respect to Table 2. It is unclear if the acid concentration is based upon the prepolymer or only the isocyanate component of the prepolymer. If the ppm data

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is based upon only the isocyanate component, then applicants are required to furnish data wherein the ppm data is based upon the weight of the prepolymer.

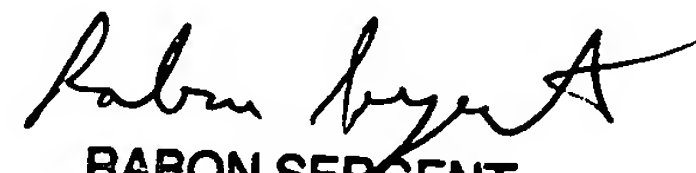
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

R. Sergent
September 12, 2005


RABON SERGENT
PRIMARY EXAMINER